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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claims 1, 3-5, 7-12, 14-22, and 24-31 are currently presented and have been examined.

Response to Arguments

Applicant's arguments filed 29 January 2008 have been fully considered but they are not persuasive.

The Applicant argues that the combined teachings of Koether and Andruzzi do not teach or suggest a serial communication bus coupling the diagnostic interface to the power line carrier modem. The Examiner does not agree in view of the teachings of the references and the knowledge of one of ordinary skill. In order for any modem connected to a computer such as a diagnostic interface to communicate data from a network to the computer for processing, there must be a serial communication bus that connects the modem to the computer in order for the data transfer to occur. Since Koether clearly discloses a diagnostic interface with modems of various types connected to the diagnostic interface and Andruzzi clearly discloses a power line modem and its connection to computers, it would have been obvious to have a serial communication bus that connects a power line carrier modem to a computer such as a diagnostic interface disclosed in Koether. Therefore, this limitation is met by the combined disclosures of the references and the claims are not in condition for allowance.

Also, the Applicant's arguments regarding that claim 31 is properly enabled under 35 USC 112, 1st paragraph are also unpersuasive. The claim requires that the "power line carrier" perform the translation between two protocols. A "carrier" is a communication signal and is normally unable to perform any sort of processing. One of ordinary skill would not know how

this is accomplished based on the disclosures of the specification without undue experimentation.

Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 31 recites "...translating, by the power line carrier, between an appliance protocol of the at least one appliance and a power line carrier protocol." The specification does not enable one skilled in the art to be able to make and/or use a transmission medium and signal such as a power line carrier to translate and/or accomplish any sort of data manipulation between two protocols as claimed.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 3-5, 7-12, 14-22, and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5 875 430 A to Koether in view of US Patent 4 580 276 to Andruzzi et al.

Regarding claim 1, Koether discloses a method of performing service diagnostics on appliances, the method comprising:

connecting a diagnostic interface (referred to throughout the reference as “base station”) to a plurality of appliances in direct communication with the diagnostic interface; (column 5, lines 3-19; column 7, lines 45-62, specifically lines 59-62)

accessing the appliance of the plurality of appliances and performing a service diagnosis of the appliance through the diagnostic interface via the connection to the appliance using service functions in the appliance; (column 5, line 60-column 6, line 9)

implementing the diagnostic interface within a single device including a display, processing circuitry generating service commands to perform the service diagnosis and a serial communication bus coupling the diagnostic interface to a modem; and servicing, by the diagnostic interface, the at least one appliance via the connection, said servicing comprising at least one of adjusting a characteristic of the appliance and displaying to a technician the service

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diagnosis. (see at least column 2, lines 23-36 and 54-59, specifically lines 34-36; column 5, line 60-column 6, line 9; column 7, lines 45-62, specifically lines 54-62)

Koether does not expressly disclose the use of a power line carrier modem to interconnect the diagnostic interface or the appliances, however, Koether does disclose communication means used by the diagnostic interface and the appliances may include RF, wired, microwave, satellite, or infrared (column 5, lines 3-19, specifically lines 5-8 and 11-13).

Andruzzi discloses a power line carrier medium using modems included within devices wherein the modems are configured to modulate data to communicate the data over an alternating current (AC) power line. (column 2, line 44-column 3, line 17, specifically column 2, lines 54-60 and column 2, line 65-column 3, line 17; column 4, line 59-column 5, line 19, specifically column 5, lines 2-12; column 5, line 55-column 6, line 17, specifically column 5, lines 55-67; column 9, line 33-59, specifically column 9, lines 56-59). Andruzzi further expressly discloses that the power line carrier modem is used within devices such as a computer and other devices that are connected to it through the power line medium including appliances (column 2, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Andruzzi discloses that a power line carrier system using modems enables bi-directional data to be communicated within a building via a power line carrier to various devices including appliances within a local area network (column 2, lines 50-64). In view of these specific advantages and that both references are directed to providing communication systems for appliances, one of ordinary skill would

have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Regarding claim 3, Koether and Andruzzi disclose the method of claim 1.

Koether wherein accessing further comprises accessing a dedicated appliance controller in an appliance. (Figure 1, element 140; column 4, line 23-column 5, line 2)

Regarding claim 4, Koether and Andruzzi disclose the method of claim 1.

Koether discloses wherein the service functions comprise safety functions, parameter functions, and appliance status functions. (column 9, lines 3-60, specifically “Type of malfunction”)

Regarding claim 5, Koether and Andruzzi disclose the method of claim 1.

Koether discloses wherein the method is further comprising implementing said diagnostic interface in a computer. (Figure 2, element 155; column 5, line 60-column 6, line 9; column 7, lines 54-62) (see also Figure 8, element 810; column 10, line 1, column 11, line 29)

Regarding claim 7, and Andruzzi disclose the method of claim 1.

Koether discloses wherein the method is further comprising connecting to a remote system to retrieve service diagnostic information. (column 5, line 60-column 6, line 9, specifically column 5, line 67-column 6, line 5)

Regarding claim 8, and Andruzzi disclose the method of claim 1.

Koether discloses wherein performing service diagnosis includes diagnosing and servicing the appliance based on the appliance diagnosis. (Figure 7, element 735; column 9, lines 44-60)

Regarding claim 9, Koether and Andruzzi disclose the method of claim 8.

Koether discloses wherein servicing the appliance comprises patching appliance firmware. (column 5, line 60-column 6, line 9, specifically column 6, line 2)

Regarding claim 10, Koether and Andruzzi disclose the method of claim 8.

Koether discloses wherein servicing the appliance comprises adjusting appliance parameters. (column 9, lines 44-60, specifically “modify the cooking profiles”)

Regarding claim 11, Koether and Andruzzi disclose the method of claim 1.

Koether discloses the method is further comprising maintaining an external database (Figure 1, element 190) of appliance information based on diagnosis of the appliance. (column 5, lines 50-59; column 9, lines 3-60)

Regarding claim 12, Koether discloses a diagnostic interface (“base station”; Figure 1, element 150) for performing service diagnostics on appliances (column 5, line 60-column 6, line 9), the diagnostic interface comprising:

a display for viewing diagnostic and service information; (column 7, lines 45-62, specifically lines 59-62)

processing circuitry for generating service commands for an appliance; (column 7, lines 45-62, specifically lines 54-57)

a serial communication bus coupling the diagnostic interface to a modem, said diagnostic interface implemented within a single device including said display and said processing circuitry generating the service commands to service the appliance, wherein said diagnostic interface configured to service the appliance by at least one of adjusting a characteristic of the appliance and displaying to a technician the appliance diagnostic results. (column 2, lines 23-36 and 54-59,

specifically lines 34-36; column 5, line 60-column 6, line 9; column 7, lines 45-62, specifically lines 54-62)

Koether does not expressly disclose a power line carrier communication interface configured to be directly connected to a plurality of appliances, wherein said power line carrier communication interface facilitates transmitting the service commands to the appliance and receiving appliance diagnostic results on a power line carrier communication system, and said diagnostic interface implemented within a single device including a power line communication interface, however, Koether does disclose a wired communication interface within the diagnostic interface to accomplish these limitations (column 5, lines 3-19, specifically lines 5-8 and 11-13). Koether also discloses that RF, microwave, satellite, or infrared communication interfaces may also be used. (column 5, lines 13-19)

Andruzzi discloses a power line carrier interface configured to modulate data to communicate the data over an alternating current (AC) power line. (column 2, line 44-column 3, line 17, specifically column 2, lines 54-60 and column 2, line 65-column 3, line 17; column 4, line 59-column 5, line 19, specifically column 5, lines 2-12; column 5, line 55-column 6, line 17, specifically column 5, lines 55-67; column 9, line 33-59, specifically column 9, lines 56-59). Andruzzi further expressly discloses that the power line carrier modem is used within devices such as a computer and other devices that are connected to it through the power line medium including appliances (column 2, lines 54-60).

Claim 12 is rejected since the motivations regarding the obviousness of claim 1 also apply to claim 12.

Regarding claim 14, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the diagnostic interface is further comprising a remote service center interface. (Figure 1, element 175; column 5, lines 37-49)

Regarding claim 15, Koether and Andruzzi disclose the diagnostic interface of claim 14.

Koether discloses wherein the diagnostic interface gathers appliance statistics to send to a remote service center over the remote service center interface. (column 5, line 60-column 6, line 9)

Regarding claim 16, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the diagnostic interface is further comprising a user interface to facilitate service diagnostics. (column 7, lines 45-62, specifically lines 59-62)

Regarding claim 17, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the appliance comprises a refrigerator. (column 4, lines 23-36, specifically lines 32-36)

Regarding claim 18, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the appliance comprises an oven. (column 4, lines 23-36, specifically lines 32-36)

Regarding claim 19, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the appliance comprises a heating system. (column 4, lines 23-36, specifically lines 32-36)

Regarding claim 20, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the appliance comprises a cooling system. (column 4, lines 23-36, specifically lines 32-36)

Regarding claim 21, Koether and Andruzzi disclose the diagnostic interface of claim 12.

Koether discloses wherein the appliance comprises a lighting system. (column 4, lines 23-36, specifically lines 32-36)

Regarding claim 22, Koether discloses a diagnostic system for provide access to service diagnostics on an appliance, the system comprising:

a plurality of appliances; a diagnostic interface configured to be directly connected to said plurality of appliances, said diagnostic interface comprising a display, wherein said diagnostic interface facilitates accepting service destined for at least one appliance of said plurality of appliances, the diagnostics interface implemented within a single device including a display device and a microprocessor configured to generate the diagnostics commands, and a serial communication bus coupling the diagnostic interface to a modem (“base station”; Figure 1, element 150; column 5, lines 3-19; column 5, line 60-column 6, line 9; column 7, lines 45-62, specifically lines 54-62; column 7, lines 45-62, specifically lines 59-62) and a dedicated appliance controller for receiving and executing the diagnostics commands (Figure 1, element 140; column 4, line 23-column 5, line 2), wherein said diagnostic interface configured to service the appliance by at least one of adjusting a characteristic of the appliance and displaying to a technician the diagnostics commands (column 2, lines 23-36 and 54-59, specifically lines 34-36; column 5, line 60-column 6, line 9; column 7, lines 45-62, specifically lines 54-62).

Koether does not disclose wherein the diagnostics interface includes a power line carrier modem within the diagnostic interface, Koether does disclose a communication means within the diagnostic interface that may be used in a RF, wired, microwave, satellite, or infrared network (column 5, lines 3-19, specifically lines 5-8 and 11-13)

Andruzzi discloses a power line carrier modem configured to modulate data to communicate the data over an alternating current (AC) power line. (column 2, line 44-column 3, line 17, specifically column 2, lines 54-60 and column 2, line 65-column 3, line 17; column 4, line 59-column 5, line 19, specifically column 5, lines 2-12; column 5, line 55-column 6, line 17, specifically column 5, lines 55-67; column 9, line 33-59, specifically column 9, lines 56-59). Andruzzi further expressly discloses that the power line carrier modem is used within devices such as a computer and other devices that are connected to it through the power line medium including appliances (column 2, lines 54-60).

Claim 22 is rejected since the motivations regarding the obviousness of claim 1 also apply to claim 22.

Regarding claim 24, Koether and Andruzzi disclose the system of claim 22.

Koether discloses wherein the diagnostic interface comprises a computer. (Figure 2, element 155; column 7, lines 45-62, specifically lines 59-62)

Regarding claim 25, Koether and Andruzzi disclose the system of claim 22.

Koether discloses wherein the diagnostic interface comprises a PC card interface. (column 10, lines 1-22)

Regarding claim 26, Koether and Andruzzi disclose the system of claim 22.

Koether discloses wherein the system is further comprising a communications interface between the diagnostic interface and the dedicated appliance controller. (column 5, lines 3-36)

Regarding claim 27, Koether and Andruzzi disclose the system of claim 22.

Koether discloses wherein the system is further comprising a remote system, the remote system connectable to the diagnostic interface via an Internet connection. (column 5, lines 37-49)

Regarding claim 28, Koether and Andruzzi disclose the system of claim 22.

Koether discloses wherein the dedicated appliance controller is contained within the appliance. (Figure 1, element 140; column 4, line 23-column 5, line 2)

Regarding claim 29, Koether discloses the system of claim 22.

Koether does not expressly disclose wherein the diagnostic interface comprises a power line carrier modem which allows the diagnostic interface to communicate with an appliance via a power line carrier system, however, Koether does disclose that the local area appliance network may be implemented via a RF, wired, microwave, satellite, or infrared network (column 5, lines 3-19)

Andruzzi discloses wherein the local area appliance network comprises a power line carrier system configured to modulate data to communicate the data over an alternating current (AC) power line. (column 2, line 44-column 3, line 17, specifically column 2, lines 54-60 and column 2, line 65-column 3, line 17; column 4, line 59-column 5, line 19, specifically column 5, lines 2-12; column 5, line 55-column 6, line 17, specifically column 5, lines 55-67; column 9, line 33-59, specifically column 9, lines 56-59). Andruzzi further expressly discloses that the power line carrier modem is used within devices such as a computer and other devices that are connected to it through the power line medium including appliances (column 2, lines 54-60).

Claim 29 is rejected since the motivations regarding the obviousness of claim 1 also apply to claim 29.

Regarding claim 30, Koether and Andruzzi disclose the method of claim 1.

Koether discloses wherein adjusting the characteristic comprises changing, by the diagnostic interface, the characteristic of a home appliance. (column 2, lines 23-36, specifically lines 34-36; column 5, line 60-column 6, line 9; column 7, lines 45-62, specifically lines 54-62)

Koether does not expressly disclose wherein the diagnostic interface is connected to the appliances via a power line carrier, however, Koether does disclose communication means used by the diagnostic interface may include RF, wired, microwave, satellite, or infrared networks (column 5, lines 3-19, specifically lines 5-8 and 11-13).

Andruzzi discloses a power line carrier medium configured to modulate data to communicate the data over an alternating current (AC) power line. (column 2, line 44-column 3, line 17, specifically column 2, lines 54-60 and column 2, line 65-column 3, line 17; column 4, line 59-column 5, line 19, specifically column 5, lines 2-12; column 5, line 55-column 6, line 17, specifically column 5, lines 55-67; column 9, line 33-59, specifically column 9, lines 56-59). Andruzzi further expressly discloses that the power line carrier medium is used by devices such as a computer and other devices that are connected to it through the power line medium including appliances (column 2, lines 54-60).

Claim 30 is rejected since the motivations regarding the obviousness of claim 1 also apply to claim 30.

Regarding claim 31, Koether and Andruzzi disclose the method of claim 1.

Koether does not expressly disclose translating, by the power line carrier, between an appliance protocol of the appliance and a power line carrier protocol, however, Koether does disclose wherein the diagnostic interface communicates with appliances bidirectionally through

the use of transceiver modem means and that the diagnostic interface is able to interpret data sent from the appliance (column 5, lines 3-35 and 60-65).

Andruzzi discloses the power line carrier modem as shown above regarding claim 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to translate, by a power line carrier modem connected to the carrier, between an appliance protocol of the appliance and a power line carrier protocol since Koether expressly discloses that the transceiver modem is able to receive data sent from an appliance and interpret this data on the diagnostic interface. Therefore, one of ordinary skill in the art would recognize that translation of protocols between the data that is sent from the appliance to the diagnostic interface and the transceiver modem means would occur if the diagnostic interface can read data from the transceiver modem and therefore would have found it obvious that translation between protocols occurs in view of the disclosures of Koether. It further would have been obvious to use a power line carrier modem in place of the transceiver modem means disclosed in Koether since, as shown above regarding claim 1, Koether suggests that means within the diagnostic interface that may be used in a RF, wired, microwave, satellite, or infrared network and Andruzzi discloses that a power line carrier system using modems enables bi-directional data to be communicated within a building via a power line carrier to various devices including appliances within a local area network. In view these disclosures within Koether and Andruzzi and that both references are directed to providing communication systems for appliances, one of ordinary skill would have been motivated to combine these references in order to achieve the claimed invention and would have considered them to be analogous to one another based on their related fields of endeavor.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is 571-272-3918. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George C. Neurauter, Jr./
Primary Examiner, Art Unit 2143